(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 461 691 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **91201235.8**

(22) Date of filing: **24.05.91**

(51) Int. Cl.[5]: **B65D 43/06**, B65D 77/04, //B65D101:00

(30) Priority: **13.06.90 IT 2136090 U**

(43) Date of publication of application:
18.12.91 Bulletin 91/51

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

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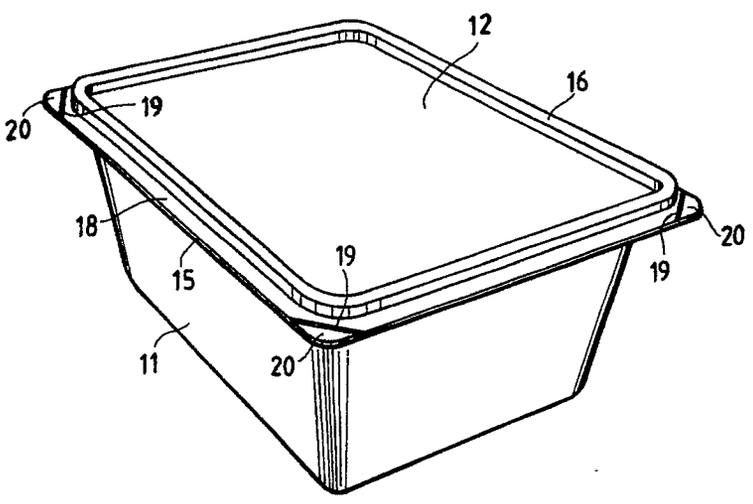
(54) Tray with cover provided with guarantee closure.

(57) A tray (11) made from thermoplastic material comprising a container portion provided along its top peripheral side with an upwards and outwards protruding composite edge above which a cover element (12), also provided with an outwards protruding edge can be positioned, with said cover element (12) being provided with at least two portions with a breakage invitation line (19), which define two outwards extending regions (20) of the tray (11) and of the cover element (12), and with both said regions (20) of the cover element (12) being stably and irremovably constrained to the edge of said tray (11).

Said regions are preferably provided at the corners of the tray (11) and of the cover element (12), and determine a guarantee closure.

Fig.1



EP 0 461 691 A2

The present invention relates to a tray with a cover means provided with a guarantee closure.

In the packaging of products, in particular alimentary products, so-said "trays" are used, which are produced by moulding a thermoplastic materials, and are closed by means of cover elements. In general, such cover elements, also manufactured by moulding, can be stably coupled with an upwards protruding, contoured edge along the perimeter of the mouth of the tray.

Such a coupling requires suitably contoured edges, not always easy to be manufactured as regards the complementary undercuts to be provided in the cover element.

Furthermore, although their cover element can be fastened onto them by means of such a snap-coupling, said trays known from the prior art do not guarantee that the container has not been opened previously, and therefore do not guarantee that their contents have not been tampered with.

A purpose of the present invention is of providing a tray made of a thermoplastic material, provided with a relevant cover element, which is capable, once that the package is complete, of securing the reliability and genuineness of the contained product.

A further purpose is of making it possible a packaging with sealing to be accomplished in a simple, quick and cheap way.

These purposes according to the present finding are achieved by providing a tray with a guarantee closure cover means made from a thermoplastic material, comprising a container portion provided along its top peripheral side with an upwards and outwards protruding composite edge above which a cover element, also provided with an outwards protruding edge, can be positioned, which tray is characterized in that said cover element is provided with at least two portions with a breakage invitation line, which define two outwards extending regions of the tray and of the cover element, with both said regions of said cover element being stably and irremovably constrained to the edge of said tray.

The characteristics and advantages of the present invention will be clearer from the following disclosure. made by referring to the accompanying schematic drawings, in which:

Figure 1 shows a perspective view of a tray with cover means according to the present invention,

Figure 2 shows a top plan view of the tray with cover means of Figure 1,

Figure 3 shows a magnified detail of the sectional view made along the path line III-III of Figure 2, and

Figure 4 shows a view at all similar to the view of Figure 3, in a different position.

Referring to Figure 1, a tray made from a thermoplastic material, generally indicated with the reference numeral 11, is shown, above which a cover element, generally indicated with 12, is placed.

The tray 11, which, in the example shown herein, has a downwards-tapered parallelepipedal shape, is manufactured, e.g., by moulding, and is provided along its perimetrical side, with a composite edge (Figure 3) consisting of an upper flat portion 13, two inclined connecting portions 14, and, finally, an also essentially horizontal, outwards cantilever-protruding flange 15.

Also the cover element 12 is provided with a perimetrical edge extending from a reverse-"U"-shaped portion 16, suitable for getting positioned and engaged above the upper flat portion 13 of the tray.

Also such a perimetrical edge of the cover element 12 is composed by an inclined portion 17 used as a connection means between the reverse-"U"-shaped portion 16 and an outwards cantilever-protruding flange 18, also essentially horizontal, or, better, positioned parallel to the flange 15 of the tray 11.

In particular, the upper, flat portion 13 of the composite edge of the tray 11 is defined by an external, inclined portion 14 and a corresponding internal, inclined and convergent end 14a of the inner wall of said tray. Simultaneously, in their reverse-"U"-shaped portion 16, the ends of the cover element are convergent towards each other, so that they are suitable to receive and/or get engaged on the internal wall and on the inclined connecting portions 14 of the edge of the same tray.

As one can see from the figures, the cover element is provided with breakage invitation lines 19, such as to define outwards-extending regions 20 of the tray and of the cover element. Such regions 20 of the cover element 12 are stably and irremovably constrained to corresponding regions of said tray.

In the herein depicted form of practical embodiment, the breakage invitation lines 19 and corresponding regions 20 have been positioned at the corners, but they can be alternatively positioned at any points along the edge, provided that a safe closure of the tray is secured.

The breakage invitation lines 19 and the corresponding, stably and irremovably constrained, regions 20 are preferably accomplished directly during the step of positioning of the cover element 12 above the tray 11, once that the latter is filled with its contents.

This is done by using a suitable bonding means, e.g., ultra-sound welding means, which cause the mutually opposite surfaces of the regions 20, into mutual contact, to get irremovably welded

to each other, and simultaneously welds and partially cuts said flange portions, generating breakage invitation lines 19. In particular, said breakage invitation line is a weld partially penetrating into the interior of said flange.

One may thus immediately observe that, once that the cover element 12 is stably constrained to the tray 11 (Figure 3), it is enough that one, in order to remove said cover element 12, bend outwards, according to the arrow 21, the regions 20 welded to each other. By such a movement, a fracture is caused at the breakage invitation line 19, in the material which constitutes the cover element 12 which, hence, once disengaged from the tray, can be removed, as shown in chain line in Figure 4.

One can observe that, once that such a separation has occurred, the original closure cannot be restored. In that way, the occurred deocclusion of the tray is evidenced.

In any case, a good tight closure between the tray and the cover element can be restored, thanks to the provision of the portions 13 and 16 and respectively 14 and 17, which get mutually engaged respectively with each other.

It is evident that, alternatively, the breakage invitation lines might be provided on the cover element in a preliminary step, which cover element, so formed, would be then stably constrained above the edge of the tray, thus providing a guarantee occlusion.

Also a composite tray accomplished by constraining a thermoplastic tray as disclosed hereinabove inside a cardboard tray which surrounds it, has to be considered as comprised within the scope of the instant finding.

Claims

1. Tray with a guarantee closure cover means made from a thermoplastic material, comprising a container portion provided along its top peripheral side with an upwards and outwards protruding composite edge above which a cover element, also provided with an outwards protruding edge, can be positioned, which tray is characterized in that said cover element is provided with at least two portions with a breakage invitation line, which define two outwards extending regions of the tray and of said cover element, with both said regions of the cover element being stable and irremovably constrained to the edge of said tray.

2. Tray according to claim 1, characterized in that said at least two portions provided with breakage invitation lines are corners of said cover element.

3. Tray according to claim 1, characterized in that said composite edge of said tray is contituted by a flat portion suitable for getting engaged inside said cover element, at least one inclined connecting portion and an outwards cantilever-protruding flange.

4. Tray according to claim 3, characterized in that said cover element comprises a reverse-"U"-shaped portion, suitable for getting engaged on said flat portion of the top edge of said tray, inclined connecting portions and a flange parallel to the flange of said tray.

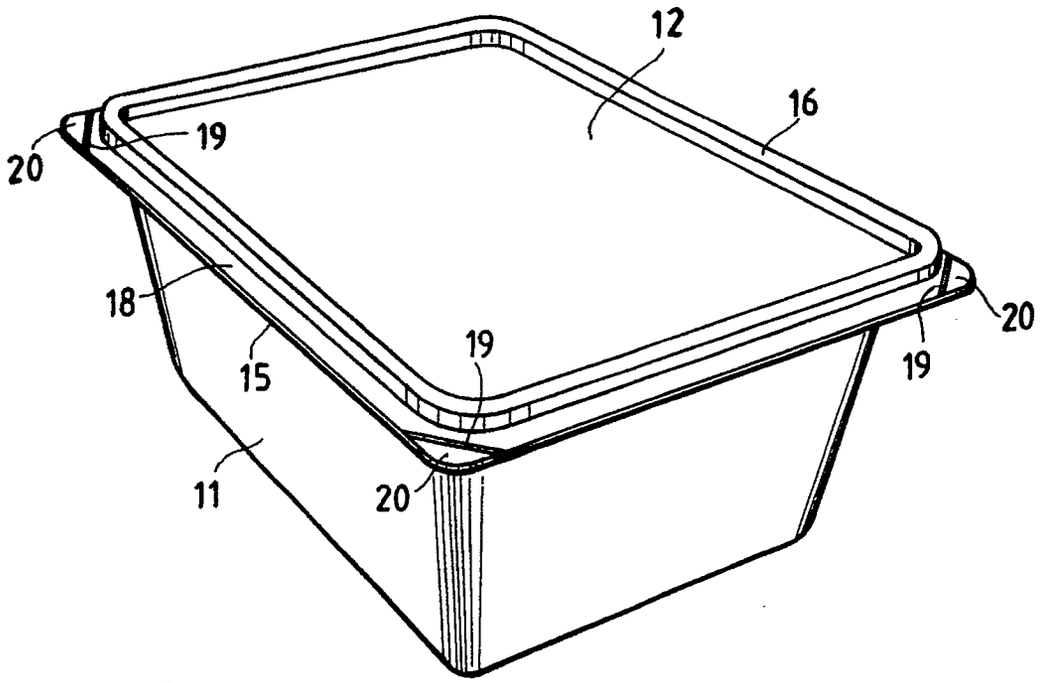
5. Tray according to claim 1, characterized in that said breakage-invitation line is a weld partially penetrating into the interior of said flange.

6. Tray according to claim 3 or 4, characterized in that said upper flat portion is defined by an external inclined wall, and a corresponding inclined, converging, internal end of the inner wall of said tray.

7. Tray according to claim 6, characterized in that ends of said cover element, in their reverse-"U"-shaped portion, result to be convergent towards each other, so as to house and/or get engaged on, the internal wall and the inclined connecting portions of the edge of said tray.

8. Tray according to claim 1, characterized in that it is constrained to, and contained inside, a cardboard tray.

Fig.1


12
16
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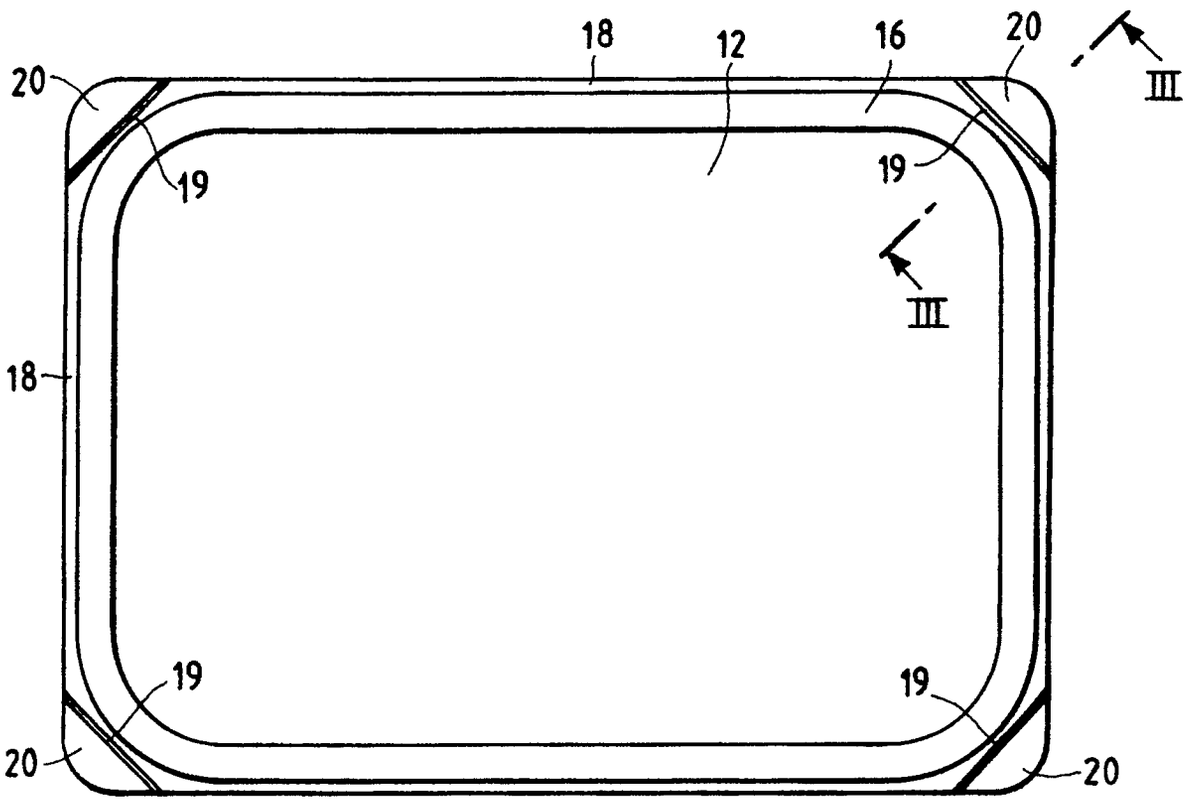
11
20

Fig.2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III
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19
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III
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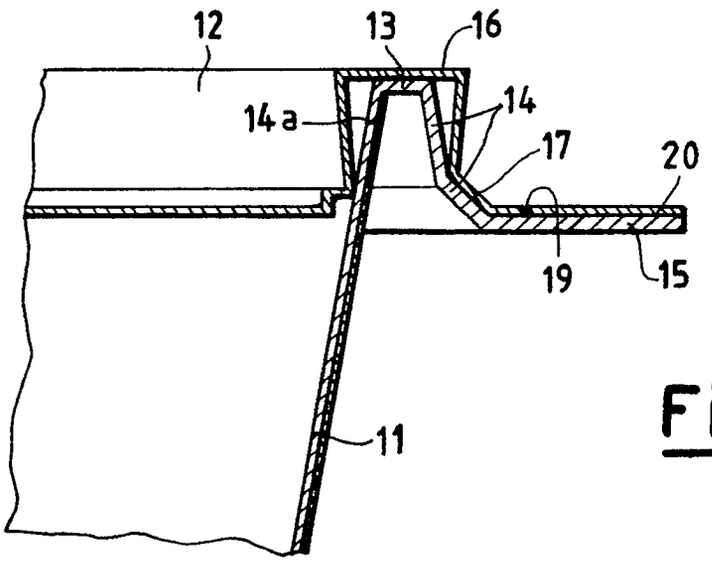
20
20


12
13
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14a
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11

Fig.3

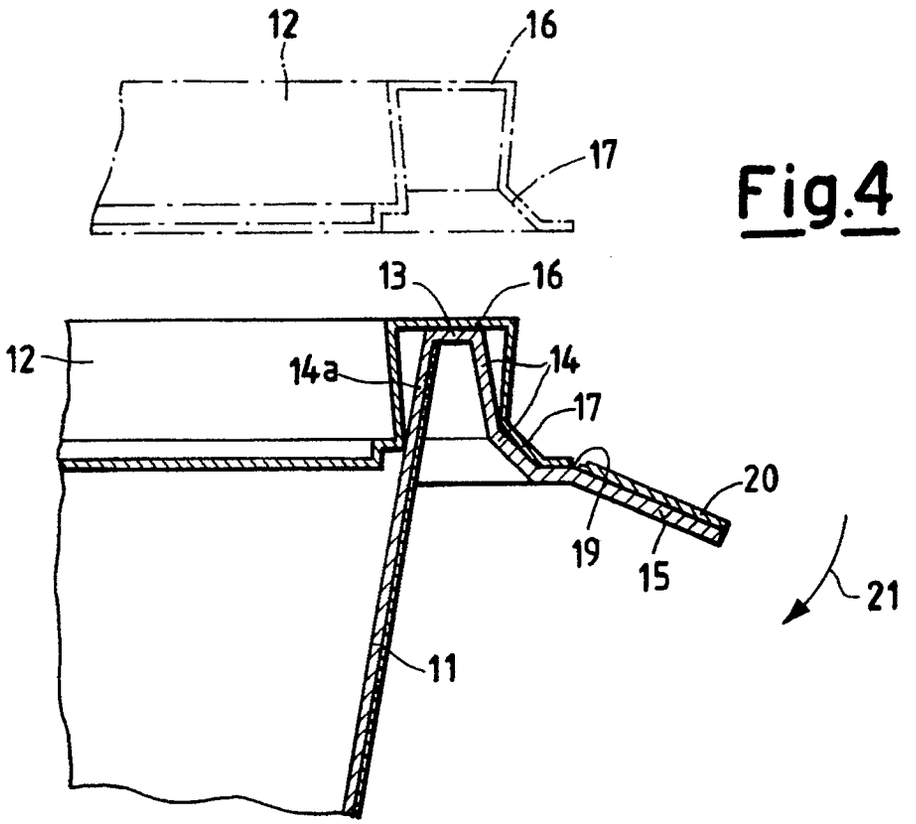
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Fig.4